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THE NATION AND THE WATERWAYS.

By LEWIS M. HAUPT, C.E., A.M., Sc.D.

(Read April 22, 1909.)

This mysterious planet which we inhabit has been the object of profound research by many self-constituted investigators since the creation of man, yet he has not wholly unravelled her secrets nor fathomed her innumerable resources.

She may be likened to an immense gyroscope, whose pole is the sun and whose radius-vector is the tether which checks her eccentricities as she floats through space. Her form, size and density have been carefully determined and it is found that of the four great circles which constitute her envelope, only about 53,500,000 square miles are above the level of the sea, and that of this portion but about 28,000,000 are arable land.

Such is the present extent of our heritage, as a storehouse for the maintenance of life, and it is recorded that when, in the process of time, this physical orb had been suitably developed for habitation, then the Lord God, by His creative Word, said:

“Let us make man in our image, after our likeness and let them have dominion over all the earth. . . . So God created man and blessed them and said unto them, ‘Be fruitful and multiply and replenish the earth and subdue it; and have dominion over . . . every living thing that moveth upon the earth.’”

In the fulfillment of this divine commission man has multiplied in numbers, notwithstanding many vicissitudes, until to-day it is estimated that there are not less than 1,500,000,000 souls to be supplied with the necessities of life, yet the earth is not full, nor are her resources exhausted. This enormous host of humanity is scattered, more or less densely, over the habitable portion of the globe, subject to different environments, beliefs, aspirations, habits, governments, faculties and purposes, yet all imbued with the common,

imperious instinct of life, from the lowest barbarianism to the highest civilization.

To level up these hordes of humanity, free circulation, tending to promote community of interests, is necessary, and yet some of the most favored nations are enacting legislative barriers to prevent migration and restrict commercial intercourse, not only between nations but even between states.

From these two factors of available area and present population it appears that, if uniformly distributed, there would be a density of 53.6 individuals to the square mile, or 11 acres per capita. But it will give a better idea of the capacity of the earth to state that the entire population of the globe could be included in the State of Texas, at the rate of nine to the acre, whereas the safe sanitary limit is taken at one hundred per acre. Belgium, one of the most densely settled and prosperous countries, has a density of 1.12 acres per capita, or 0.9 of a person per acre.

The annual increment of the world is stated to be: births, 36,792,000; deaths, 35,639,835—difference or increase, 1,162,165. Were this rate to remain constant, on this basis, it would require over a thousand years to even double the present population, so that there would appear to be ample room for the normal increase even within present limits of territory. But these figures must be discredited inasmuch as they give only three fourths of one per cent. increment per *decade*, while the *annual* excess for Europe, as determined by Professor Marshall, was 1.06 per cent., or fourteen-fold greater.

Suffice it to say, however, that while there appears to be ample room in the world for thousands of years to come, yet the increase in the United States is believed to be far more rapid than in any other country on earth. Here the rate is more than double that of Europe, and this fact also is an earnest of her influence as a world power in the maintenance of peace, regardless of great armaments. Large portions of the industrial world are dependent upon her granaries for their materials and subsistence, thus intensifying the necessity of reducing the cost of transportation and increasing her facilities, by providing capacious channels as well as an adequate merchant marine, for the distribution of her products.

This question of cheap transportation becomes, therefore, one of international importance, deserving of the careful consideration of all classes of people and, although much has been said and done to meet the demands of commerce, our retired President has characterized the results as being "largely negative," which he attributes to the absence of a comprehensive plan which led to the policy of "repression and procrastination," and he adds:

"In spite of large appropriations for their improvement our rivers are less serviceable for inter-state commerce to-day than they were half a century ago, and in spite of the vast increase in our population and commerce they are on the whole less used."

This pregnant paragraph represents a condition resulting from a change of policy which has rendered these lamentable results possible, and which is so diametrically opposed to the fundamental principles of this democracy that a brief statement of these innovations seems essential to point out the proper remedy.

FUNDAMENTAL PRINCIPLES.

In his excellent analysis of the dangers threatening the utilities of the railroads, from legislative restriction, Mr. Stuyvesant Fish¹ calls attention to the words of Washington, when retiring from public life, as follows:

"It is important, likewise, that the habits of thinking, in a free country, should inspire caution in those intrusted with its administration, to confine themselves within their respective constitutional spheres, avoiding in the exercise of the powers of one department, to encroach upon another. The spirit of encroachment tends to consolidate the powers of all the departments in one, and thus to create, whatever the form of government, a real despotism. A just estimate of that love of power, and a proneness to abuse it which predominates the human heart, is sufficient to satisfy us of the truth of this position . . . If, in the opinion of our people the distribution or modification of the constitutional powers be, in any particular, wrong, let it be corrected by an amendment in the way which the constitution designates. But let there be no change by usurpation for though this, in one instance, may be the instrument of good, it is the customary weapon by which free governments are destroyed."

Now, more than a century later, our distinguished Secretary of

¹"The Nation and the Railroads," address before the American Academy of Political and Social Science. No. 553, 1908.

State and ex-U. S. Senator, P. C. Knox, in an address delivered February 12, 1908, said:

“When the Government assumed charge and control of the navigable streams of the interior it entered into a practical contract with the States and communities bordering these streams that their waterways should be improved to their highest capacity. The States were thereby prevented from improving the streams themselves. Corporate enterprise was forbidden to undertake the canalization of important stretches and fix the cost of their works and franchises on the traffic. The Federal Government has made its formal and deliberate declaration that it will do this work. That necessarily involves that it will make the improvements adequate to modern needs and possibilities. To do any less would be a mockery and breach of good faith.”

Thus, it is manifest that the federal government has *assumed charge and control* of the waterways of the states, but without formal agreement, and has paralyzed the former corporate or local initiative as commercial enterprises, and in consequence of the inability of the national treasury to meet even a small fraction of the demands upon it for this class of public works, has added to the general congestion of the transportation and increased the cost.²

The great relative loss in water-borne commerce during the past half century may be ascribed in large part to the rapid increase in the mileage and capacity of railroads which have erroneously regarded waterways as competitors and waged a war of extermination upon them; as well as to the policy on the part of some of the states and localities to tacitly prefer appropriations from the national treasury rather than from their own revenues and thus apparently sanction the forfeiture of sovereignty over these works, to an extrinsic authority, having no constitutional rights to exercise them.

Even if it were constitutional for the general government to assume and control the improvements of all the rivers and harbors of the several states, it has been demonstrated time and again that it is impracticable to secure the necessary appropriations from the general treasury, necessary to meet the demands of a rapidly expanding commerce, which furnishes a tonnage increasing five-fold faster than the facilities for transporting it. With all sections

² At the closing session of the 60th Congress the appropriation was only *nine-tenths of one per cent.*, while 60.5 per cent. was for militarism and its sequences.

clamoring for expenditures in their districts for isolated improvements it becomes impracticable to enter upon any continuous and systematic plan of relief. The frequent failure of the appropriation bill for waterways is in itself conclusive evidence of the serious obstacles to the development of these works due to general legislation, and the paralysis resulting from the assumption of control over all such works by a central authority is too often in evidence. With the many devices available for the defeat of meritorious legislation, the issue is always in doubt and is frequently determined by the policy of the "steering-committee" or the demands from other departments or bureaus of the executive departments, which have their headquarters at the capital, and are in position to direct legislation by making or withholding recommendations for certain influential sections. Thus, the multitude of bills, the shortness of the closing sessions, the reference to committees not having the right of way on the floor, the ability to filibuster or talk a measure to death through courtesy, the reference to a committee with instructions to pigeon-hole, the failure of a member to receive recognition, the necessity of distributing the patronage over the country to secure a sufficient number of votes to pass the bill, the strenuous opposition of vested interests fearing competition, and the local, sectional jealousies existing between adjacent centers, all tend to retard or defeat the normal development of our avenues of transportation and to promote those of our foreign competitors in the markets of the world.

That these statements are not mere glittering generalities will appear by a brief reference to the history of the colonies when the rivalries of trade and the cutting of rates were so severe that to avoid impending ruin, it was determined to form a confederation to protect the colonies from the devastation of the foreign powers which were destroying their trade. Thus it was that the Constitution of the United States was adopted on the seventeenth day of September, 1787, whereby the states empowered the Congress to "regulate commerce with foreign nations and among the several states, and with the indian tribes."

Many are the expositions which have been published as to the scope and meaning of these powers, but the opinion of the framers of this Magna Charta, are unanimous as to the fact that *the states*

did not relegate their jurisdiction over their waterways, water-powers or franchises to the national government and this right was retained and exercised by the states to their great benefit, as well as to that of the nation, up to and after the Civil War when the policy gradually changed and the "control was assumed," as Senator Knox puts it, by the government. Under this policy of encroachment and national control, it has become necessary for all sections of the country to organize great political and local associations and to combine these into national congresses which assemble annually at the capital, to urge by every legitimate means that \$500,000,000 bonds be issued, to enable the waterways of the country to be prepared for traffic, yet the results thus far are almost negligible, and it is stated by members of Congress that the people would not justify such measures. This opinion appears to be well supported by the fact that during the past half century more than \$600,000,000 have been appropriated for these purposes from the public treasury and yet the President has declared that the results are largely negative, but the method of procedure would seem to be radically wrong in basing the appeal for money on the experience of the past with no prospect of better returns for the future, which can only be effected by a reformation of the system which has rendered such returns possible. Thus it happens that the largest and most enterprising commercial and trade organizations of the country are memorializing Congress for such a reorganization as shall place these works under a cabinet officer, to be created with definite and systematic plans for the continuous execution of such works as may properly come within the jurisdiction of the United States and to encourage the state, corporate and local initiative as was the practice in ante-bellem days when the waterways and canals were so rapidly and successfully developed at a minimum cost by private capital, as have been the railways and highways of the federal domain from its foundation. In short it is vital that there should be a return to the early policy underlying the foundation of this republic and which was the spirit embodied in its Constitution. It was the genius of our government, that

"What individual enterprise could effect alone, was to be left to individual enterprise; what a state and individuals could achieve together was

left to the joint action of states and individuals; but what neither of these, separately or conjoined were able to accomplish, that and that only, was the province of the federal government."

In the application of this principle as construed under the Constitution it is asserted that the recent practice of appropriating public moneys for projects which are essentially and indisputably designed to benefit local and personal interests is radically wrong. This attitude was firmly maintained by many of our Presidents from Washington to the present time.

Thomas Jefferson, long president of this distinguished society, who was the first Secretary of State, under the Constitution, and also vice-president from March 4, 1797, to 1801 and President of the United States for the two following terms during the formative days of the Republic, in his sixth annual message to Congress, dated December 2, 1806, refers to the prospective plethora of income from imposts and suggests the desirability of expending a portion of these funds upon public improvements but states emphatically that it will require an amendment to the Constitution as it is not authorized under the powers vested in Congress. He recommended the abolition of the imposts on the necessary articles of trade and their continuance on foreign luxuries, appealing to the patriotism of those who were able to pay for their use that the revenues might be applied

"To the great purposes of the public education, roads, rivers, canals and such other objects of public improvements as it may be thought proper to add to the constitutional enumeration of the federal powers. By these operations new channels of communication will be opened between the states, the lines of separation will disappear, their interests will be identified and their union be cemented by indissoluble ties. . . . The subject is now proposed for the consideration of Congress, because, if approved by the time the state legislatures shall have deliberated on this extension of the federal trusts, and the laws shall be passed and other arrangements made for their execution, the necessary funds will be on hand without employment. I suppose an amendment to the Constitution, by consent of the states, necessary, because the objects now recommended are not among those enumerated in the Constitution, and to which it permits the public moneys to be applied."

So that as the Constitution has never been thus amended it would appear that many of the appropriations which have been made from the public treasury are without warrant in law.

A few years later when the necessity of greater facilities became still more manifest, his successor, President James Madison, also urged that Congress should pass enabling legislation by amendment to the Constitution and felt required under his oath of office to veto a bill passed by Congress appropriating public money for works of this class, in the following words:

“March 3, 1817: Having considered the bill this day presented to me entitled ‘An act to set apart and pledge certain funds for internal improvements, and for constructing roads, and canals and improving the navigable water courses, in order to facilitate, promote and give security to internal commerce among the several states, and to render more easy and less expensive the means and provisions for the common defense,’ I am constrained by the insuperable difficulty I feel in reconciling th bill with the Constitution of the United States to return it with that objection to the House of Representatives, in which it originated. . . .

“The power to ‘regulate commerce among the several States’ cannot include a power to construct roads and canals and to improve the navigation of water courses in order to facilitate, promote and secure such a commerce, without a latitude of construction departing from the ordinary import of the terms strengthened by the known inconveniences which doubtless led to the grant of this remedial power to Congress. . . .

“If a general power to construct roads and canals and to improve the navigation of watercourses, with the train of powers incident thereto, be not possessed by Congress, the assent of the states to the mode provided in the bill cannot confer that power. . . .

“I am not unaware of the great importance of roads and canals and the improved navigation of water courses, and that a power in the national legislature to provide for them might be exercised with signal advantage to the general prosperity. But seeing that such a power is not expressly given by the Constitution, and believing that it cannot be deduced from any part of it without an inadmissible latitude of construction and a reliance on insufficient precedents; believing also that the permanent success of the Constitution depends on a definite partition of powers between the general and the state governments, and that no adequate landmarks would be left by the constructive extension of the powers of Congress as proposed in the bill, I have no option but to withhold my signature from it, and to cherish the hope that its beneficial objects may be attained by a resort for the necessary powers to the same wisdom and virtue in the nation which established the Constitution in its actual form and providently marked out in the instrument itself a safe and practicable mode of improving it as experience might suggest.”

As these Presidents were contemporaneous with the framing of the Constitution their official interpretation of its powers and scope

should carry great weight, indicating as they do the fear of trenching on the rights of the states and checking their development by trespassing upon their own resources.

Presidents Jackson, Tyler, Polk and Pierce also emphasized these views by their emphatic vetoes and even after the war, when Congress had adopted a policy of making such appropriations, Presidents Grant, Arthur and Cleveland vetoed bills, while others failed of passage because they did not contain enough patronage for local projects to secure the necessary votes. This pernicious principle, which was feared by the founders of the republic, was clearly shown in the application of the State of New York for federal aid in the construction of the Erie Canal, a work of undoubted national import. When its legislature sent a committee to Washington on December 21, 1811, President Monroe stated that he was embarrassed by scruples derived from his interpretation of the Constitution. The next day, the Secretary of the Treasury, Albert Gallatin, of Pennsylvania, stated that he was under the opinion that pecuniary aid could not be given, but that sufficient grants of land might now be made without inconvenience to the fiscal affairs of the union. The opinion prevailed in Congress that it would be wise to amend the Constitution for such purposes, but the delegation felt it a

“Duty to declare, on all proper occasions, a decided opinion that the States would not consent to vest in the national government a power to cut up their territory, for the purpose of digging canals.”

It was also reported:

“Your committee found another idea operating with baleful effect, though seldom and cautiously expressed. The population and resources of the State of New York furnish no pleasant reflection to men, whose minds are imbued with state jealousies; and although the proposed canal must not only be of the highest importance to the western states as well as to the States of Pennsylvania and Maryland, and greatly promote the prosperity of the whole union, it was obvious that an opinion as to its superior benefit to this state was sedulously inculcated. . . . It became evident that the object of this state would not be separately attended to and your committee were desired to prepare a general system . . . as being necessary to secure the consent of a majority of the House of Representatives. . . . Others again, who have too much understanding to doubt the resources of the state and

too much prudence to expose themselves to ridicule, by expressing such doubt, triumphantly declare, that her legislature has not the spirit and intelligence to draw out and apply her resources to that great object. These men console themselves with a hope that the envied State of New York will continue a suppliant for the generosity of the Union, instead of making a manly and dignified appeal to her own power. It remains to be proved, whether they judge justly who judge so meanly of our councils."

The sequel is well known and reveals the wisdom of abandoning all efforts to secure national aid, and to depend upon local resources and initiative for early developments, as was done.

In vetoing the bill on August 1, 1882, President Arthur said:

"My principal objection to the bill is that it contains appropriations for purposes not for the common defense or general welfare, and which do not promote commerce among the states. . . . I regard such appropriations of public money as beyond the powers given by the Constitution to Congress and the President. I feel the more bound to withhold my signature because of the peculiar evils which manifestly result from this infraction of the Constitution.

"Appropriations of this nature to be devoted to purely local objects tend to increase in number and amount, etc. Thus as the bill becomes more objectionable it secures more support. This result is invariable and necessarily follows a neglect to observe the Constitutional limitations imposed upon the law making power."

Yet the passage of the bill in the face of this plain declaration of the evils to result therefrom indicates how great is the temptation to cater to one's constituency, at the public expense.

Commenting on the morale of similar appropriations in his day, President Jackson said in part, May 27, 1830:

"In the best view of these appropriations, the abuses to which they lead far exceed the good they are capable of promoting. The subject has been one of much, and, I may add painful reflection to me. It has bearings that are well calculated to exert a powerful influence upon our hitherto prosperous system of government, and which on some accounts, may even excite despondency in the breast of an American citizen."

Then denying the power of Congress to appropriate public money for local or private benefit, he added:

"This is the more necessary to preserve other parts of the Constitution from being undermined by the exercise of doubtful powers or of too great extension of those which are not so, and protect the whole subject against deleterious influences of combinations to carry by concert measures which, considered by themselves, might meet but little countenance."

This fear, which amounts to a prophecy, is fulfilled in the vast assemblages, conventions and caucuses which are found to be necessary to secure the predetermined policies of the dominant party, but the effect as applied to waterways is far more injurious because of the assumption of jurisdiction over *all possible waterways* in the United States or its possessions, so that even where the government is unable to make improvements it is now practically impossible for localities or private parties to inaugurate works on their own account and at their own risk. It is still further proposed to extend the powers of the government into the waters of the several states and make them a source of revenue to the general government by the imposition of royalties on the water-powers which are now or have been free, thus further taxing the industrial products of the Nation, at the expense of the consumers.

Another phase of these improvements, so called, is touched upon in the veto of President Cleveland which is worthy of careful consideration. After many years of experience in efforts to provide capacious channels at public expense, he stated on May 29, 1896, that:

“Many of the objects for which it appropriates public money are not related to the public welfare, and many of them are palpably for the benefit of limited localities or in aid of individual interests. On the face of the bill it appears that not a few of these alleged improvements have been so improvidently planned and prosecuted that after an unwise expenditure of millions of dollars new experiments for their accomplishment have been entered upon. . . . These cannot fail to stimulate a vicious paternalism and encourage a sentiment among our people, already too prevalent, that their attachment to our government may properly rest upon the hope and expectation of direct and especial favors. I believe that no greater danger confronts us as a nation than the unhappy decadence among our people of genuine and trustworthy love and affection for our government as the embodiment of the highest and best aspirations of humanity and not as the giver of gifts, and because its mission is the enforcement of exact justice and equality, and not the allowance of unfair favoritism.”

These patriotic opinions from the highest authorities, whose official positions qualify them to speak *ex-cathedra*, should suffice to convince the most skeptical of the necessity of some modification of the system which will give assurance of better returns for the money expended and for a restoration of the policy of local and

state aid in the development of local improvements. The great increase proposed in the amount of the appropriations gives no guaranty that the defects of the system will be remedied but rather increased. In commenting on the passage of the largest bill ever passed, namely that of 1907, for \$87,113,432, it was stated that one item alone of over a million dollars was for a purely local scheme and although thoroughly exposed and denounced in the public press while the bill was pending, there was not a voice against it when the bill was passed. This was not the only one in the measure, yet to have cut them out would have caused the defeat of the entire bill.

“If the rivers and harbors bills cannot be passed without such abuses, the system should be changed, and that quickly, for conditions could hardly be more demoralizing.”

These conclusions are reiterated at almost every meeting of the National Board of Trade and of many commercial bodies all over the country, yet they are “more honored in the breach than in the observance.”

At its recent session, the National Civic Federation resolved that such legislation should be passed as would preserve individual initiative, competition, and the free exercise of a free contract in all business and industrial relations. The National Board of Trade resolved:

“That the public works of the government, excepting that of the military and naval establishments, be placed under the direction and control of a department to be created, which shall be called the Department of Public Works.”

A natural sequence to the above exposé of the operation of the existing system, may be found in the inability to secure adequate appropriations from the public purse, at the last session, for works of internal improvements in the face of so great a deficiency threatening the Treasury, yet the sums allotted for the destructive agencies of war, navy and pensions were largely increased. The river and harbor appropriations aggregate less than one tenth of the former bill for this purpose and the money is limited to the “Repair, maintenance and preservation of these public works

heretofore appropriated for by Congress, and for continuing in operation such dredging and other plants or equipment of any kind owned by the United States government." Thus no extension of works is permitted and furthermore it is proposed to increase the dredging plants owned by the government doing work by the eight hour day and in open waters, without regulating works to maintain the channels so improved.

A brief analysis of the unprecedentedly large appropriation of 1907, indicates that more than one half is applied to transfer points on or near the seaboard and at terminals, so that the overland, domestic traffic is not materially relieved, while a large sum is also applicable to tentative works and to efforts to compete with the deteriorating forces of nature by mechanical devices, involving large annual expenditures for operation and maintenance.

A general review of the conditions which prevail as to the decadence of the waterways of the country, indicates that the assumption of authority by the government has operated to restrain state and corporate initiative, has reduced the available mileage of the canals to about one half that of 1860, has added largely to the expenses for maintenance and has rendered it difficult, if not impossible, to secure legislation for much needed local improvements because of the claims of governmental jurisdiction and control, thus destroying competition by water and preventing development.

REMEDIAL LEGISLATION.

Since it has been shown, *in extenso*, by citations from the highest authorities that the states have not surrendered their sovereign control over the local waterways included within their boundaries, and that it is practically impossible to secure national appropriations for such local improvements, save for political purposes, it would appear to be most practicable and necessary to confine the operations of the government to those interior waterways which are strictly interstate, and the improvement of which would promote the general welfare; such as the rivers which form borders between two or more states in whole or in large part, as in the case of the Mississippi, Missouri, Ohio, Delaware, Potomac, Savannah, Colum-

bia as far as Wallawalla, the Rio Grande, St. Lawrence and others, as well as to the principal harbors of the Atlantic, Gulf and Pacific with the Great Lakes and the internal canals connecting these *trunk lines*.

All other waterways lying within or traversing the areas of the several states, in whole or part, with local harbors, inlets, canals or other improvements should be emancipated from the assumed control of the government and be relegated to the states to develop under their reserved rights by the granting of charters to localities or private corporations as formerly, but any state or corporation desiring government aid may apply to Congress and receive such assistance as that body may deem justifiable, for the public good, said appropriations to be returned to the national treasury in due course as determined by the terms of the loan.

Thus by mutual coöperation and consent the tributary avenues of trade may be synchronously developed, as the trunk lines and terminals are enlarged, to meet the rapidly expanding demands of the country. Otherwise at the present rate it may require from fifty to one hundred years to meet the present requirements, with no prospect of overtaking those of the future for which the nation must wait and pay the extra charges for overland carriage. The engineering and administrative features of this pressing problem must be deferred for lack of time and because they are subordinate to the vital element of securing enabling legislation, involving as it does a reorganization of the system of control.

In the words of our immortal President Lincoln :

“ Let the nation take hold of the larger works, and the states the smaller ones; and thus, working in a meeting direction, discretely, but steadily and firmly. What is made unequal in one place may be equalized in another, extravagance avoided, and the whole country put on that career of prosperity which shall correspond with its extent of territory, its natural resources, and the intelligence and enterprise of its people.”

If this policy of coöperations were rightly carried out it would conform to the fundamental conception of the framers of the Constitution to establish a government “ of the people, by the people and for the people.”